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13/01 Romain Fillon : A climate tipping point under risk-sensitive preferences

The analysis of risky intertemporal social contexts requires an adapted social choice criterion. In particular, for the analysis of an endogenous risk carried by several successive generations such as climate change, the social planner's aversion towards this intertemporal risk should be accounted for. The standard additive social preferences assume temporal risk neutrality while the Epstein-Zin preferences may not be monotonic, yielding counter-intuitive results in risky settings. We analyze the policy implications of using risk-sensitive social preferences with temporal risk aversion under a potential climate tipping event. We first show analytically the mechanisms by which this tipping point affects a risk-sensitive social planner in comparison with a standard social planner exhibiting additive social preferences. We then use a dynamic stochastic recursive model of climate policy with a stylized tipping point. Numerically, we find that temporal risk aversion plays a key but ambiguous role in risky intertemporal contexts: it can marginally decrease or widely increase the SCC in comparison with the additive case depending on the size of the potential risk considered. Risk-sensitive preferences allow us to discuss different social strategies, in particular a potential social preference for catastrophe avoidance. It sheds light on the links between preference for early resolution of uncertainty, temporal risk aversion and self-protection's decisions in risky intertemporal social situations.

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